

#23

PTO
DEC 16 2002
U.S. PATENT AND TRADEMARK OFFICE

**CONTINUED PROSECUTION APPLICATION (CPA)
REQUEST TRANSMITTAL**

CHECK BOX, if applicable:

☐ **DUPLICATE**

Submit an original, and a duplicate for fee processing.
(Only for Continuation or Divisional applications under 37 CFR 1.53(d))

Address to: Assistant Commissioner for Patents Box CPA Washington, DC 20231	Attorney Docket No. of Prior Application	15685P024
	First Named Inventor	Mark C. Liefer
	Examiner Name	P. Tran
	Group/Art Unit	2684
	Express Mail Label No.	EL414995303US

This is request for a ☒ continuation or ☐ divisional application under 37 CFR 1.53(d), (continued prosecution application (CPA)) of prior application number 09/336,933, filed on June 21, 1999, entitled NULL DEEPENING FOR AN ADAPTIVE ANTENNA BASED COMMUNICATION.

NOTES

FILING QUALIFICATIONS: The prior application identified above must be a nonprovisional application that is either: (1) complete as defined by 37 CFR 1.51(b), or (2) the national stage of an international application in compliance with 35 U.S.C. 371. Effective May 29, 2000, a CPA may only be filed in a utility or plant application if the prior nonprovisional application was filed before May 29, 2000. A CPA may be filed in a design application regardless of the filing date of the prior application. See "Request for Continued Examination Practice changes to and Provisional Application Practice," Final Rule, 65 Fed. Reg. 50092 (Aug. 16, 2000); Interim Rule, 65 Fed. Reg. 14865 (Mar. 20, 2000), 1233 Off. Gaz. Pat. Office (Apr. 11, 2000).

C-I-P NOT PERMITTED: A continuation-in-part application cannot be filed as a CPA under 37 CFR § 1.53(d), but must be filed under 37 CFR 1.53(b).

EXPRESS ABANDONMENT OF PRIOR APPLICATION: The filing of this CPA is a request to expressly abandon the prior application as of the filing date of the request for a CPA. 37 CFR 1.53(b) must be used to file a continuation, divisional, or continuation-in-part of an application that is not to be abandoned.

ACCESS TO PRIOR APPLICATION: The filing of this CPA will be construed to include a waiver of confidentiality by the applicant under 35 U.S.C. 122 to the extent that any member of the public who is entitled under the provisions of 37 CFR 1.14 to access to, copies of, or information concerning, the prior application may be given similar access to, copies of, or similar information concerning, the other application or applications in the file jacket.

35 U.S.C. 120 STATEMENT: In a CPA, no reference to the prior application is needed in the first sentence of the specification and none should be submitted. If a sentence referencing the prior application is submitted, it will not be entered. A request for a CPA is the specific reference required by 35 U.S.C. 120 and to every application assigned the application number identified in such request, 37 CFR § 1.78(a).

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

1. ☒ Enter the unentered amendment previously filed on July 3, 2002 under 37 CFR § 1.116 in the prior nonprovisional application.
2. ☐ A preliminary amendment is enclosed.
3. This application is filed by fewer than all the inventors named in the prior application, 37 CFR 1.53 (d)(4).
 - a. ☐ **DELETE** the following inventor(s) named in the prior nonprovisional application:

 - b. ☐ The inventor(s) to be deleted are set forth on a separate sheet attached hereto.
4. ☐ A new power of attorney or authorization of agent (PTO/SB/81) is enclosed.
5. Information Disclosure Statement (IDS) is enclosed:
 - a. ☐ PTO-1449
 - b. ☐ Copies of IDS Citations

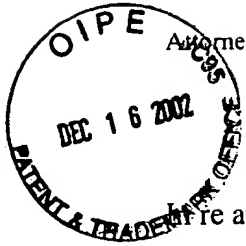
[Page 1 of 2]

Burden Hour Statement: This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20230. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box CPA, Washington, DC 20231.

RECEIVED
DEC 19 2002
OFFICE OF PETITIONS

00000067 09336933
740.00 OP
702.00 OP
12/19/2002 CV0111
02 173006
12/19/2002

#22/B
2/11/03



Attorney Docket No.: 015685.P024

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re application of:

Leifer et al.

Application No: 09/336,933

Filed: June 21, 1999

For: NULL DEEPENING FOR AN ADAPTIVE
ANTENNA BASED COMMUNICATION
STATION

Examiner: P. Tran

Art Unit: 2684

RECEIVED

DEC 19 2002

OFFICE OF PETITIONS

Assistant Commissioner For Patents
Washington, D.C. 20231

AMENDMENT

Dear Sir:

In response to the Office Action mailed January 3, 2002, please enter the following amendment and consider the following remarks.

IN THE SPECIFICATION

Please replace the paragraph beginning on page 5, line 5 with the following:

31 One aspect of the invention is a method for determining, in a communication station using multiple antennas, improved uplink or downlink processing strategies, for example in the form of uplink or downlink weights for linear smart antenna processing, for which one or more nulls have a controlled depth. The method can be applied as a modification to a variety of known techniques for uplink and downlink strategy computation. The method needs as side information only the signatures of those remote users to which controlled nulls are to be directed. Other nulls in the array pattern, for which no signature estimates may be available, are substantially